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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/01/2005

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EXAMINER

EDGAR, RICHARD A

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/732,935

Applicant(s)

BRISTOL ET AL.

Examiner

Richard Edgar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003 under 37 CFR 1.53(b).
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/2003 & 2/2004.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

EXAMINER NOTE

The previous office action having a mail date of 23 August 2005 is in error since the objections and rejections made therein do not correspond to Applicants' application. Accordingly, the previous office action is hereby vacated. Any inconvenience to Applicants is regretted.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "177" has been used to designate different elements (see Fig. 4 annotated on the following page).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "F" and "301" (see Figs. 4 and 5 annotated on the following page).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

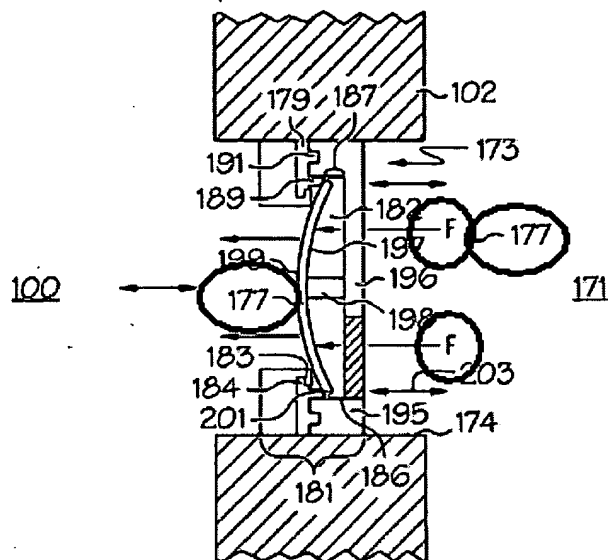


FIG. 4

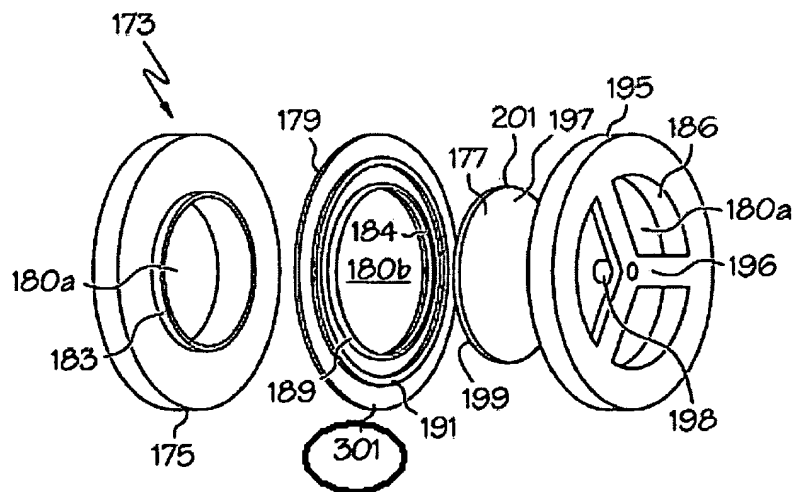


FIG. 5

Claim Objections

Claim 5 is objected to because of the following informalities:

In claim 5, the valve seat is referred to as elastomeric, but the material of the valve seat is not recited until claim 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-14 and 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 4,986,310 (Bailey et al. hereinafter).

Bailey et al. show a check valve assembly, comprising: a valve body 20 having an inlet port 12, an outlet port 14, and a flow passage therebetween; a valve seat 36 coupled to the valve body, the valve seat extending at least partially into the flow passage and having an opening therethrough; a valve element 48 disposed within the flow passage between the valve seat 36 and the valve body outlet port, the valve element configured to translate axially between an open position (Fig. 3) and a closed position (Fig. 2) in response to a pressure differential between the inlet and outlet ports.

The valve body further comprises: a backing plate 22; and a cage 24, 26 coupled to the backing plate 22, wherein at least one portion of the cage 24, 26 extends across the valve body flow passage.

The valve element 48 includes a protrusion 56 configured to selectively contact the at least one portion 24 of the cage.

The at least one portion of the cage 88 includes a protrusion 90 configured to selectively contact the valve element 82 (see Fig. 4).

The valve seat 36 is an annular protrusion which sealingly couples to the valve element 48 in the closed position.

The valve seat 36 is elastomeric (see col.2, lines 64).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,986,310 (Bailey et al. hereinafter) as applied to claims 9-14 and 17-21 above, and further in view of United States Patent No. 6,681,579 (Lane et al. hereinafter).

The applied Lane et al. reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the Lane et al. reference,

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it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the Lane et al. reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the Lane et al. reference, prior to the effective U.S. filing date of the Lane et al. reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and Lane et al. reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the Lane et al. reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Bailey et al., as detailed in the 35 U.S.C. § 102(b) rejection above, teaches a check valve having all of the claimed elements recited in claims 1-6. The Bailey et al. reference, however, does not teach using the valve in an air turbine starter.

Lane et al. teach an air turbine starter (ATS) utilizing a check valve between the ATS and the gearbox assembly for the purpose of minimizing gearbox lubricant loss in the event of an ATS housing breach (see Abstract).

Since Bailey et al. teach a check valve and Lane et al. teach the use of check valves in an ATS, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the check valve of Bailey et al. to be

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used in an air turbine starter, as taught by Lane et al. for the purpose of minimizing gearbox lubricant loss in the event of an ATS housing breach.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,986,310 (Bailey et al. hereinafter) in view of United States Patent No. 6,681,579 (Lane et al. hereinafter) as applied to claim 1 above, and further in view of United States Patent No. 5,927,561 (Foster et al. hereinafter).

The applied Lane et al. reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the Lane et al. reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the Lane et al. reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the Lane et al. reference, prior to the effective U.S. filing date of the Lane et al. reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and Lane et al. reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the Lane et al. reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Bailey et al. in view of Lane et al. teaches an air turbine starter having an elastomeric disk 20, but does not expressly recite that the material of the disk is of low density.

Foster et al. teach that an elastomeric seal 40 should be made from a low density material for the purpose of allowing the disk portion 46 of the seal to be flexible (see col. 3, lines 46-48).

Since Bailey et al. in view of Lane et al. shows a flexible elastomeric disk 20 and Foster et al. teach that the elastomeric material should be low density, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the material of the elastomeric disk of Bailey et al. in view of Lane et al. to be a low density material, as taught by Foster et al. for the purpose of allowing the disk to be flexible.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,986,310 (Bailey et al. hereinafter) in view of United States Patent No. 6,681,579 (Lane et al. hereinafter) as applied to claim 1 above, and further in view of United States Patent No. 2,833,093 (Shesler hereinafter).

The applied Lane et al. reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the Lane et al. reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the Lane et al. reference was derived from the inventor of

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this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the Lane et al. reference, prior to the effective U.S. filing date of the Lane et al. reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and Lane et al. reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the Lane et al. reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Bailey et al. in view of Lane et al. teaches a valve element 48 sealed to a valve seat 36, but does not state that the valve seat 36 is smoothly ground.

Shesler teaches in column 2, lines 51-55, a valve seat should be grounded smooth for the purpose of preventing leaks when a washer is sealed against the valve seat.

Since Bailey et al. in view of Lane et al. teaches a valve seat sealed to a valve element and Shesler teaches that the valve seats should be smoothly ground, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to perform a finishing operation to the valve seat of Bailey et al. in view of Lane et al., such as smooth grinding, as taught by Shesler, for the purpose of preventing leaks when the valve element is sealed against the valve seat.

Claims 15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,986,310 (Bailey et al. hereinafter) as applied to claims 9 and 17 above, and further in view of United States Patent No. 2,833,093 (Shesler hereinafter).

Bailey et al. teach a valve element 48 sealed to a valve seat 36, but do not state that the valve seat 36 is smoothly ground.

Shesler teaches in column 2, lines 51-55, a valve seat should be grounded smooth for the purpose of preventing leaks when a washer is sealed against the valve seat.

Since Bailey et al. teach a valve seat sealed to a valve element and Shesler teaches that the valve seats should be smoothly ground, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to perform a finishing operation to the valve seat of Bailey et al., such as smooth grinding, as taught by Shesler, for the purpose of preventing leaks when the valve element is sealed against the valve seat.

Claims 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,986,310 (Bailey et al. hereinafter) as applied to claims 9 and 17 above, and further in view of United States Patent No. 5,927,561 (Foster et al. hereinafter).

Bailey et al. teach an elastomeric disk 20, but do not expressly recite that the material is of low density.

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Foster et al. teach that an elastomeric seal 40 should be made from a low density material for the purpose of allowing the disk portion 46 of the seal to be flexible (see col. 3, lines 46-48).

Since Bailey et al. show a flexible elastomeric disk 20 and Foster et al. teach that the elastomeric material should be low density, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the material of the elastomeric disk of Bailey et al. to be a low density material, as taught by Foster et al. for the purpose of allowing the disk to be flexible.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Edgar whose telephone number is (571) 272-4816. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7 am- 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Richard Edgar
Examiner
Art Unit 3745

RE